

**CADER**  
**Siting & Environment**  
**Committee**  
***ACTION PLAN***

**January 15, 1997**  
**Second Working Draft**

## COMMITTEE MEMBERS

This is a working draft that does not yet necessarily represent the views of the entire committee, whose members presently include:

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## PLAN STRUCTURE & PROCESS

The siting and environment action plan is composed of:

1. A goal statement expressing the plan's objectives and a strategy statement describing how to achieve the objectives.
2. Profiles of the technologies being sited and permitted (final version to be provided by CADER Committee No. 5).
3. A preliminary profile of California permitting applicable to distributed resources.
4. Seven major barriers to goal achievement and proposed solutions for eliminating or reducing the barriers.
5. Proposed assignments of solution implementation, including responsibilities, costs, and timing.

The plan's structure and content is subject to change based on further committee work and the need for consistency with other CADER committees' emerging plans. The committee's process for completing the plan includes: 1) detailing of barriers and solutions by the committee's "barrier teams" between January 17 and February 28, and compilation into a complete third draft; 2) full committee review of the third working draft during March 1-17, and revision into a fourth draft; 3) distribution of the fourth draft to the full CADER group on or about April 1; and 4) incorporation of the full CADER group's comments and production of a final plan document during May-June 1997. The committee's "barrier teams" include:

Policy Support	Paul Richins, Barry Garelick, Byron Washom
Public Information	Jackie Stroud, Matt Layton
Regulator Information	Matt Layton, Jackie Stroud
Permitting Information	Paul Richins, Shirley Rivera, Jackie Stroud
Regulatory streamlining	Shirley Rivera, Kevin Bruch, Barry Garelick, Ken Lim
Community Planning	Eliot Allen, Neal Johnson
Emissions Compliance	Kevin Bruch, Ken Lim, and Edan Prabhu

## **GOAL & STRATEGY STATEMENTS**

### **Goal**

To establish distributed energy resources (DR) as a recognized option for meeting energy needs by removing barriers to DR siting, and by encouraging DR permitting that is timely, orderly, and efficient.

### **Strategy**

1. Identify barriers that are impeding DR siting and permitting.
2. Increase familiarity with DR to make it a commonly-accepted supply option.
3. Focus on the DR strengths of diversity, flexibility, and minimized impacts.
4. "Pre-plan" DR facilities as integral parts of communities' infrastructure.
5. Collaborate with regulators to streamline DR permitting where appropriate.

## TECHNOLOGIES PROFILE *Continued*

### TECHNOLOGIES PROFILE (Pending Receipt of Committee No. 5 Info)

<u>Generation</u>	<u>Technology Characteristics</u>			<u>Siting &amp; Environmental Characteristics</u>					
	<u>Generating Capacity</u>	<u>Fuel or Energy Source</u>	<u>Commercial Availability</u>	<u>Land/Space Required</u>	<u>Air Emissions</u>	<u>Noise</u>	<u>Water Needs</u>	<u>Waste Production</u>	<u>Hazardous Impacts</u>
Internal Combustion Engine	5 kW to 10 MW	Natural gas, diesel, liquid fuels	Now	0.9 to 1.3 ft <sup>2</sup> /kW	TBD	TBD	TBD	TBD	TBD
Combustion Turbine	500 kW to 50 MW	Natural gas, liquid fuels	Now	0.1 to 0.4 ft <sup>2</sup> /kW	TBD	TBD	TBD	TBD	TBD
Micro Turbine	20 to 100 kW	Natural gas, liquid fuels	Near term	4-25 ft <sup>2</sup>	TBD	TBD	TBD	TBD	TBD
Fuel Cells	500 to 5,000 kW	Natural gas, landfill gas, coal gasification, LPG, propane	Now	2.5 ft <sup>2</sup> /kW	TBD	TBD	TBD	TBD	TBD
Photovoltaics	1 to 1000 kW	Solar	Now	400 ft <sup>2</sup>	None	None	None	None	TBD
Small-Scale Wind	1 to 10 kW	Wind	Now	TBD	None	None	None	None	TBD
Stirling Engine	10 to 20 kW	Hybrid solar/natural gas	Now (10 kW)	5-9 ft <sup>2</sup>	TBD	TBD	TBD	TBD	TBD

## TECHNOLOGIES PROFILE *Continued*

### Storage

Batteries	1 to 10 MW	Off-peak electricity	Now	3 ft <sup>2</sup> /kW	TBD	TBD	TBD	TBD	TBD
Flywheel	100 kW/30 sec. 1 MW/5 hrs.	N/A	Near term	4 ft <sup>2</sup> /kW	TBD	TBD	TBD	TBD	TBD
Superconducting Magnetic Energy Storage (SMES)	750 kW to 1.4 MW	N/A	Now	TBD	TBD	TBD	TBD	TBD	TBD

Sources: EPRI, 1992; CEC, 1996.

# TECHNOLOGIES PROFILE *Continued*

## PERMITTING PROFILE (partially completed)

Agency	Major Permits	Potentiall y Affected DR Technolog ies										
		IC Engine	Comb. Turbine	Micro Turbine	Fuel Cell	Solar PV	Small Wind	Stirling Engine	Batteries	Flywheel	SMES	
Applies Statewide												
planning	City/county	Zoning; CEQA	X	X	X	X	X	X	X	X	X	X
building	City/county	Building/electrical/fire	X	X	X	X	X	X	X	X	X	X
	AQMD*	Construction/operation	X	X	X	---	---	---	X	---	---	---
WRCB	Regional	Discharges (multiple)	X	X	X	---	---	---	X	---	---	---
Others Potentially Statewide												
	Fish & Game	Alteration	---	---	---	---	---	---	---	---	---	---
	State Lands	Encroachment	---	---	---	---	---	---	---	---	---	---
	Water Rights	Appropriation	---	---	---	---	---	---	---	---	---	---
	PUC	Convenience/necessity	X	X	X	X	X	X	X	X	X	X
	CIWMB	Solid waste	---	---	---	---	---	---	---	---	---	---
	Caltrans	Encroachment	---	---	---	---	---	---	---	---	---	---
	Toxic Control	Hazardous waste	X	X	---	---	---	---	---	X	---	---
Applies Regionally Only												
	Coastal Comm.	Coastal permit	X	X	X	X	X	X	X	X	X	X
Comm.	Bay Area	Development permit	X	X	X	X	X	X	X	X	X	X
	TRPA	Development permit	X	X	X	X	X	X	X	X	X	X
Bd.	Reclamation	Encroachment permit	---	---	---	---	---	---	---	---	---	---

\* Includes ARB and EPA permits/assessments.



## **BARRIER NO. 1: Policy Support**

There is limited federal and state, and virtually no local, policies acknowledging DR as a valid technology choice for meeting energy needs. Lack of policy support creates an uncertain climate for DR when it is proposed, hindering efficient siting and permitting.

### **Solution(s)**

- .1 Identify and disseminate supportive policies that do exist. There are existing policy footholds in federal and state law (see info coming from USDOE Assistant Secretary for Utility Technology; see CEC Biennial Report (BR) emphasizing diversity and flexibility; also see DR preferences in California AB 1890 and SB 656).
- .1 Advocate adoption of new policies that reinforce the merits of DR. Efforts should be focused on the CEC's BR (or subsequent policy plan that may come with market restructuring); relevant policies of agencies such as ARB and Caltrans; the policy positions of the California League of Cities and State Association of Counties; and policies of the councils of government in the state's major metropolitan areas (for example, see SANDAG's Regional Energy Plan model treatment of DR).

### **Implementation**

**Who:** Public/private consortium of DR stakeholders, e.g. CADER or similar.

**When:** Near-term priority.

**Cost:** \$24,000 in professional fees (2 days/month @ 24 months) plus in-kind labor from stakeholders.

#### ***Funding***

**Source:** Stakeholder consortium. Two models should be considered for leveraging stakeholder funds while simultaneously building alliances: 1) California's Coalition for Energy Efficiency and Renewable Technologies (CEERT) which is composed of independent renewable power producers and DSM/environmental advocates; and 2) the National Geothermal Heat Pump Consortium, composed of manufacturers, vendors, and efficiency advocates in partnership with USDOE.

## **BARRIER NO. 2: General Public Information**

There is a scarcity of non-technical DR information aimed at the following key audiences: 1) the general public, e.g. “neighbors;” 2) elected and appointed officials at the local and state levels; 3) environmental activists; 4) ratepayer advocates, e.g. UCAN and TURN; 5) building industry professions; and 6) local media. Lack of information for these groups is inhibiting awareness and acceptance of DR, and hindering efficient siting and permitting.

### **Solution(s)**

- 2.1 Prepare information packages that can be tailored and disseminated to the target groups, including written and multimedia materials, speaker presentations, tours of exemplary DR plants, etc.
- 2.2 Form alliances with other groups that have parallel and mutually supportive objectives, e.g. use the CEERT example of power producers and environmental protectionists working together to improve public awareness of, and support for, “green power.” Example organizations include the Association of Energy Engineers, Association of Professional Energy Managers, California Building Industry Association, and others.

### **Implementation**

**Who:** DR stakeholder consortium.  
**When:** Near-term priority.  
**Cost:** \$20,000, assuming partial reliance on existing materials.

***Funding***

**Source:** Stakeholder consortium.

### **BARRIER NO. 3: Technology Information for Regulators**

There is a scarcity of technical DR information aimed at the following key regulatory audiences: 1) air quality; 2) fire and safety; 3) water quality; 4) hazardous and other wastes; and 5) land-use. Lack of regulator familiarity with DR is slowing permitting and adding costs and risks.

#### **Solution(s)**

3.1 Prepare a technical information package (equipment specifications, research data, speakers, tours, etc.), and disseminate statewide to: 1) key agency officials; 2) permit assistance centers; and 3) regulator associations. Efforts should be focused on such groups as: California Air Pollution Control Officers Association; California Chapter of the Association of Environmental Professionals; California Association of Building Officials; California Chapter of the American Planning Association; and California Planning Directors Association.

#### **Implementation**

<b>Who:</b>	DR stakeholder consortium.
<b>When:</b>	Near-term priority.
<b>Cost:</b>	\$10,000, assuming partial reliance on existing materials.

***Funding***

**Source:** Stakeholder consortium.

## **BARRIER NO. 4: Permitting Information for DR Developers**

Information on statewide siting and environmental permitting requirements is not available in a consolidated manner for DR developer use. Requirements are contained in multiple agency codes, and in some cases are ambiguously defined in regard to DR. The absence of a single database of concise and clear permitting information hinders siting and permitting efficiency.

### **Solution(s)**

- 4.1 Compile an electronic database of statewide permitting requirements for each DR technology, and maintain the database on an Internet web page. The “permitting profile” at the beginning of this plan is a preliminary concept of the proposed database. Use the assembly of the database as an opportunity for clarifying ambiguous regulations.
- 4.2 Insure that state and local permit assistance centers have been briefed on DR and are adequately prepared to respond to developer inquiries. Conduct DR orientation sessions at major permit centers.

### **Implementation**

**Who:** DR stakeholder consortium with the California Office of Permit Assistance.

**When:** Near-term priority.

**Cost:** One person-month for database start-up; one person-day per quarter for database maintenance. One additional person-month for permit assistance center coverage.

***Funding***

**Source:** Stakeholder consortium.

## **BARRIER NO. 5: Regulatory Streamlining**

Siting and environmental standards that differ across local jurisdictions are impeding DR siting; and the absence of pre-installation certification procedures further increases permitting time and costs. [note to reviewers: please provide specific examples]

### **Solution(s)**

- 5.1 Initiate legislation and/or rule-making that creates uniform DR standards and implements them through pre-installation certification programs. This can be approached as an amendment of California's Permit Streamlining Act (California Code 65920-65963).
- 5.2 As part of any legislation or regulatory streamlining, explore the concept of "master" permitting where a single permit would be issued for multiple DR plants up to a stipulated total installed capacity, e.g. a total of 10MW at six different locations under one master permit.
- 5.3 Prepare CEQA instructions, organized by DR technologies, that explain what kind of environmental information is required for DR proposals; how to assemble and present it; and how to facilitate its timely review.

### **Implementation**

**Who:** DR stakeholder consortium with COPA.

**When:** Near-term priority.

**Cost:** \$50,000 in professional fees plus in-kind labor from stakeholders.

***Funding***

**Source:** Stakeholders.

## **BARRIER NO. 6: Community Planning**

DR is often opposed as an incompatible land-use because of negative perceptions of DR appearance, noise, pollution, traffic, and EMF. Such opposition, although often unfounded, slows the siting process and increases its costs.

### **Solution(s)**

- 6.1 Based on the Barrier 1 initiative to establish DR as a recognized energy option, advocate the inclusion of DR siting policy in city and county general plans, and DR siting regulations in zoning ordinances, in advance of actual project proposals. This is the heart of the “pre-planning” strategy to integrate DR as part of long-range land-use and infrastructure plans. If DR is already an integral part of community plans, that position will help reduce the contentiousness of siting when DR is actually needed and proposed.
- 6.2 Prepare and disseminate land-use impact comparisons of DR versus DR alternatives such as T&D upgrades or new central station generation to illustrate how DR can minimize community impacts.
- 6.3 Develop and distribute modeling tools for simulating DR siting and community impacts. Such models would be a bridge between sophisticated technology performance characterization models, and the needs of citizens to see how a particular plant would fit into their neighborhood.

### **Implementation**

<b>Who:</b>	DR stakeholder consortium.
<b>When:</b>	Near-term priority.
<b>Cost:</b>	\$100,000 in professional fees plus in-kind labor from stakeholders.

**Funding Source:** Stakeholders.

## **BARRIER NO. 7: Emissions Compliance**

Some DR technologies have difficulty meeting current emission standards. In such cases, either the technology itself and/or a particular emission standard may be impeding DR advancement.

### **Solution(s)**

Industry R&D, regulator consultations, and/or modification of standards.

### **Implementation**

**Who:** Manufacturers and regulators.

**When:** Ongoing.

**Cost:** N/A

***Funding***

**Source:** N/A